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AMENDMENT NO. 1 NOVEMBER 1993
TO
IS 1448 [P:100] : 1980 METHODS OF TEST FOR PETROLEUM AND ITS PRODUCTS

DETERMINATION OF THERMAL STABILITY OF EMULSIFIABLE CUTTING OILS

(*Page* 1, *clause* 1.1) — Add the following after 1.1:

'1.2 This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.'

(PCD 01)

Reprography Unit, BIS, New Delhi, India

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IS : 1448 [P : 100] - 1980
Adopted : 29 December 1980
(Reaffirmed 1997)

REAFFIRMED
2003

Indian Standard

METHODS OF TEST FOR PETROLEUM AND ITS PRODUCTS

[P : 100]

DETERMINATION OF THERMAL STABILITY OF EMULSIFIABLE CUTTING OILS

(Second Reprint DECEMBER 1998)

UDC 621·892·6 : 543·876

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1. SCOPE

1.1 This method covers the determination of the thermal stability of emulsifiable cutting oils over the range of temperatures at which these oils would normally be stored.

2. OUTLINE OF THE METHOD

2.1 Samples of the oil are stored at 0°C and 50°C and then examined for homogeneity.

3. APPARATUS

3.1 Sample Bottles — of clear glass, with wide neck, 150-ml nominal capacity.

3.2 Air Oven — controlled to maintain sample at 50 ± 1°C.

3.3 Refrigerator — controlled to maintain sample at 0 ± 1°C.

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NEW DELHI 110002

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3.4 Thermometer* — conforming to the following requirements:

Temperature range	−20°C to +102°C
Immersion, mm	Total
Scale marks:	
Subdivisions	0·2°C
Long lines at each	1°C
Numbers at each	2°C
Maximum line width, mm	0·15
Scale error, *Max*	0·1°C
Expansion chamber:	
Permit heating to	150°C
Total length, mm	415 to 425
Stem OD, mm	6 to 8
Bulb length, mm	15 to 20
Bulb OD, mm	6, *Min* but not greater than stem
Scale location:	
Bottom of bulb to line at	−20°C
Distance, mm	35 to 50
Length of scale range, mm	305 to 350

4. PROCEDURE

4.1 High Temperature Stability

4.1.1 Pour approximately 75 ml of the test oil into each of two sample bottles. Loosely stopper the bottles and place them in the oven at 50±1°C for a period not less than 15 hours and not more than 20 hours.

4.1.2 At the end of this period, remove the bottles from the oven and examine the oil immediately for any signs of turbidity, separation or gelling.

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*The thermometer having the designation IP 64C conforms to these requirements.

4.2 Low Temperature Stability

4.2.1 Pour approximately 75 ml of the test oil into each of two sample bottles. Stopper the bottles, and place them in a refrigerator at 0 ± 1°C for a period not less than 15 hours and not more than 20 hours.

4.2.2 At the end of this period, remove the bottles from the refrigerator and allow it to stand undisturbed to attain a temperature of 27 ± 2°C. Examine the oil for any signs of turbidity, separation or gelling.

5. REPORT

5.1 Report the appearance of the oil at the end of each test as the thermal stability.

6. PRECISION

6.1 The precision of this method has not yet been established.

Reprography Unit, BIS, New Delhi, India